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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/31/2001

Lawrence Ong

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7590

12/16/2004

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EXAMINER

WAHBA, ANDREW W

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,981

Applicant(s)

ONG ET AL.

Examiner

Andrew W Wahba

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23, 25-31, 33-61, 63-66, 68 and 69 is/are rejected.
- 7) ☒ Claim(s) 24, 32, 41, 62 and 67 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



PHIRIN SAM

PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The applicant employs the term "invention" in line 2.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 35-40, 48, 49 and 51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 35-40 and 51, the term mirroring is not understood. The applicant is requested to reference areas of the specification in which this term is explained.

Claim 48 recites the limitation "said plurality of networks" in line 2. There is insufficient antecedent basis for this limitation in the claim. The applicant may have intended to claim "said plurality of network elements".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 7, 17-23, 25-31, 33-34, 43, 46-48, 50, 52-61, 63-66, 68-69 rejected under 35 U.S.C. 102(b) as being anticipated by Takatori et al (US Patent 5,600,631).

With regard to claim 1 and 21, Takatori et al discloses node A (network element) that includes a controller (traffic handler) (column 5, lines 53-59 and column 6, lines 58-63). As illustrated by Fig 3A, Takatori et al discloses lines pairs (plurality of spans) 30-1 and 31-1, 30-2 and 31-2, 30-3 and 31-3, and 30-4 and 31-4 that form a ring network (ring network / multiplexing ring transport network). Each node is connected to two line pairs (first and second span). In each line pair (each of said plurality of spans), such as 30-1 and 31-1 (having two sub-spans), traffic travels in the clockwise and counterclockwise directions (traffic travels in opposite direction). Takatori et al further discloses a plurality of channels (plurality of channels) that include working (working channels) and protection (protecting channels) (column 7, lines 45-49 and 53-63). In the case a failure occurs in the working lines 30-4 and 31-4 between nodes A and B as

shown in Fig 7A, the span-switching (protection switches / unswitches) is applied (column 6, lines 39-47).

With regard to claim 2, 3, 4 and 5 in the case a failure occurs in the working lines 30-4 and 31-4 between nodes A and B as shown in Fig 7A, the span-switching (protection switch / unswitch) is applied. The controller 28 controls the space division switch 7 to connect the signal to be received from protection line 32-4 (first configuration) in place of working line 30-4 (second configuration) (column 6, lines 39-47). Prior to the failure the same configuration would have been applied to 32-4 and 30-4.

With regard to claim 7, 33, 43, 52, 63 and 69 Takatori et al discloses that the ring network is BLSR (bi-directional line switching ring) (column 5, line 11).

With regard to claim 17, Takatori et al discloses node A (network element) that includes a controller (column 5, lines 53-59 and column 6, lines 58-63). As illustrated by Fig 3A, Takatori et al discloses lines pairs (plurality of spans) 30-1 and 31-1, 30-2 and 31-2, 30-3 and 31-3, and 30-4 and 31-4 that form a ring network. Takatori et al discloses that the ring network is BLSR (BLSR ring) (column 5, line 11). Each node is connected to two line pairs (first and second span). In the case a failure occurs in the working lines 30-4 and 31-4 between nodes A and B as shown in Fig 7A, the span-switching (protection switches / unswitches) is applied. The controller 28 controls the space division switch 7 to connect the signal to be received from protection line 32-4 in place of working line 30-4 (different configurations) (column 6, lines 39-47).

With regard to claim 18, the first and second spans disclosed by Takatori et al may have a different bandwidth (different sized connections).

With regard to claim 19 and 20, in the case a failure occurs in the working lines 30-4 and 31-4 between nodes A and B as shown in Fig 7A, the span-switching (protection switches / unswitches) is applied. The controller 28 (hardware control means) controls the space division switch 7 to connect the signal to be received from protection line 32-4 in place of working line 30-4 (column 6, lines 39-47). A memory is inherent part of controller 28 as a memory is inherent to a processor. The usage of channels (concatenation) between nodes A and B is different (not programmed) from channel usage between A and D.

With regard to claim 22, Takatori et al further discloses a plurality of channels (plurality of channels) that include working (working channels) and protection (protecting channels) (column 7, lines 45-49 and 53-63).

With regard to claim 23, 25, 54 and 56, Takatori et al does not distinguish configurations among working channels (working channels) (column 7, lines 45-49 and 53-63).

With regard to claim 26 and 55, in the case a failure occurs in the working lines 30-4 and 31-4 between nodes A and B as shown in Fig 7A, the span-switching is applied. The controller 28 controls the space division switch 7 to connect the signal to be received from protection line 32-4 in place of working line 30-4 (connection configurations programmed on the sets of working channels of two different ones of said spans differ) (column 6, lines 39-47). The use of working channels between nodes A

and B is different from the use of working channels between nodes A and D (connection configurations ... each of sub spans of at least one of said spans differ).

With regard to claim 27 and 28, each node is connected to two line pairs. In each line pair (spans), such as 30-1 and 31-1 (two different ones of said sub-spans / part of same one of said spans), traffic travels in the clockwise and counterclockwise directions. Takatori et al further discloses a plurality of channels that include working (working channels) and protection (column 7, lines 45-49 and 53-63).

With regard to claim 29, Takatori et al further discloses line 30-4 and 30-1 (sub-spans part of two different ones of said spans) as illustrated by Figure 3A.

With regard to claim 30, Takatori et al discloses lines 30-1 and 32-1 (travels in same direction) as illustrated by Figure 7A. Takatori et al further discloses a plurality of channels that include working (working channels) and protection (column 7, lines 45-49 and 53-63).

With regard to claim 31, in each line pair (spans), such as 30-1 and 31-1 (both sub-spans), traffic travels in the clockwise and counterclockwise directions. Takatori et al further discloses a plurality of channels that include working (working channels) and protection (column 7, lines 45-49 and 53-63).

With regard to claim 34, Takatori et al discloses node A (network element) that includes a controller (traffic handler) (column 5, lines 53-59 and column 6, lines 58-63). As illustrated by Fig 3A, Takatori et al discloses lines pairs (plurality of spans) 30-1 and 31-1, 30-2 and 31-2, 30-3 and 31-3, and 30-4 and 31-4 that form a ring network (multiplexing ring transport network). Each node is connected to two line pairs (first and

second span). In each line pair (each of said plurality of spans), such as 30-1 and 31-1 (having two sub-spans), traffic travels in the clockwise and counterclockwise directions (traffic travels in opposite direction). Takatori et al further discloses a plurality of channels (plurality of channels) that include working (working channels) and protection (protecting channels) (column 7, lines 45-49 and 53-63). In the case a failure occurs in the working lines 30-4 and 31-4 between nodes A and B as shown in Fig 7A, the span-switching (protection switch / unswitch) is applied. The controller 28 controls the space division switch 7 to connect the signal to be received from protection line 32-4 in place of working line 30-4 (column 6, lines 39-47).

With regard to claim 46, 57 and 64, in the case a failure occurs (responsive to a failure) in the working lines 30-4 and 31-4 between nodes A and B (plurality of network elements) as shown in Fig 7A, the span-switching (protection switch / unswitch) is applied. Takatori et al discloses node A (network element) that includes a controller (programming / reprogramming) (column 5, lines 53-59 and column 6, lines 58-63). As illustrated by Fig 3A, Takatori et al discloses lines pairs (spans) 30-1 and 31-1, 30-2 and 31-2, 30-3 and 31-3, and 30-4 and 31-4 that form a ring network (ring). Each node is connected to two line pairs (first and second span). In each line pair (each of said plurality of spans), such as 30-1 and 31-1 (sub-spans), traffic travels in the clockwise and counterclockwise directions (opposite direction). Takatori et al further discloses a plurality of channels (plurality of channels) that include working (working channels) and protection (protecting channels) (column 7, lines 45-49 and 53-63).

With regard to claim 47, Takatori et al further discloses a plurality of channels that include working (working channels) and protection (column 7, lines 45-49 and 53-63). In the case a failure occurs (on said fail) in the working lines 30-4 and 31-4 between nodes A and B as shown in Fig 7A, the span-switching (protection switch / unswitch) is applied. Takatori et al discloses node A that includes a controller (selecting ... configuration) (column 5, lines 53-59 and column 6, lines 58-63).

With regard to claim 48, Takatori et al discloses node A (network element) that includes a controller (identifying information) (column 5, lines 53-59 and column 6, lines 58-63).

With regard to claim 50, in the case a failure occurs in the working lines 30-4 and 31-4 between nodes A and B as shown in Fig 7A, the span-switching (protection switch / unswitch) is applied.

With regard to claim 53, Takatori et al further discloses a plurality of channels that include working (working channels) and protection (column 7, lines 45-49 and 53-63).

With regard to claims 58-60 and 65, Takatori et al discloses node A that includes a controller (storing / storage) (column 5, lines 53-59 and column 6, lines 58-63). A memory is inherent part of controller 28 as a memory is inherent to a processor.

With regard to claim 61 and 66-68, in the case a failure occurs (second message) in the working lines 30-4 and 31-4 between nodes A and B (plurality of network elements) as shown in Fig 7A, the span-switching (protection switch / unswitch) is applied. Takatori et al further discloses a plurality of channels that include working

(working channels) and protection (protecting channels) (column 7, lines 45-49 and 53-63).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6, 8, 42, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takatori et al (US Patent 5,600,631) in view of Lu (US Patent 5,815,490).

With regard to claims 6, 8, 42, 44 and 45, Takatori et al does not expressly disclose a first set of structures to store and a second set of structures to store. Lu discloses a ring-provisioning table (table generator / first and second structures for storing) for the clockwise working channels 1-8 of a 4-node two fiber BLSR as illustrated by figures 5 and 6 (column 9, lines 58-61). Figure 6 shows the particular provisioning of one-way normal traffic that is carried by the clockwise working channels in the left to right directions (column 9, line 66 – column 10, line 4). Accordingly, both the direct and indirect connections are stored in the table.

A person of ordinary skill in the art would have been motivated to employ Lu in Takatori et al to because the multiplexing structure of the SDH ring table should be used for high order path management that is especially advantageous to manage ATM traffic (column 10, line 4-9). At the time the invention was made, therefore, it would have been

obvious to one of ordinary skill in the art to which the invention pertains so as to obtain the invention as specified in claims 8 and 42.

With regard to claim 9, Takatori et al discloses node A (network element) that includes a controller (processor) (column 5, lines 53-59 and column 6, lines 58-63). As illustrated by Fig 3A, Takatori et al discloses lines pairs (plurality of spans) 30-1 and 31-1, 30-2 and 31-2, 30-3 and 31-3, and 30-4 and 31-4 that form a ring network (multiplexing ring transport network). Each node is connected to two line pairs (first and second span). In each line pair (each of said plurality of spans), such as 30-1 and 31-1 (having two sub-spans), traffic travels in the clockwise and counterclockwise directions (traffic travels in opposite direction). Takatori et al further discloses a plurality of channels (plurality of channels) that include working (working channels) and protection (protecting channels) (column 7, lines 45-49 and 53-63).

Takatori et al, however, does not expressly disclose a first set of structures to store and a second set of structures to store. Lu discloses a ring-provisioning table (first and second structures for storing) for the clockwise working channels 1-8 of a 4-node two fiber BLSR as illustrated by figures 5 and 6 (column 9, lines 58-61). Figure 6 shows the particular provisioning of one-way normal traffic that is carried by the clockwise working channels in the left to right directions (column 9, line 66 – column 10, line 4). Accordingly, both the direct and indirect connections are stored in the table.

A person of ordinary skill in the art would have been motivated to employ Lu in Takatori et al to because the multiplexing structure of the SDH ring table should be used for high order path management that is especially advantageous to manage ATM traffic

(column 10, line 4-9). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains so as to obtain the invention as specified in claim 8.

With regard to claim 11, 12 and 13, as illustrated by Figure 6, the provisioning ring table stores working channel assignments for each node (column 9, lines 58-66). A similar table can be used for protecting channels.

With regard to claim 14, Takatori et al discloses that the ring network is BLSR (bi-directional line switching ring) (column 5, line 11).

With regard to claims 15 and 16, Takatori et al discloses node A that includes a controller (traffic handler) (column 5, lines 53-59 and column 6, lines 58-63). In the case a failure occurs in the working lines 30-4 and 31-4 between nodes A and B as shown in Fig 7A, the span-switching (protection switches / unswitches) is applied. The controller 28 controls the space division switch 7 to connect the signal to be received from protection line 32-4 (first configuration) in place of working line 30-4 (second configuration) (column 6, lines 39-47).

Allowable Subject Matter

8. Claims 24, 32, 41, 62 and 67 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew W Wahba whose telephone number is (571) 272-3081. The examiner can normally be reached on M-F 8:30-5:30.

Art Unit: 2661

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully Submitted, *AW*

Andrew Wahba
Patent Examiner
December 10, 2004



**PHIRIN SAM
PRIMARY EXAMINER**